

REMARKS

Favorable reconsideration of this application as presently amended and in light of the following discussion is respectfully requested.

Claims 1-21 and 25-29 are pending in this application, Claims 22-24 having been canceled without prejudice or disclaimer, and Claims 1-3, 5, 7-21, 25-27, and 29 having been presently amended. Support for amended Claims 1-3, 5, 7-21, 25-27, and 29 can be found, for example, in the original claims, drawings, and specification as originally filed.¹ No new matter has been added.

In the outstanding Office Action, the specification and claims were objected to due to informalities; Claims 21-24 and 29 were rejected under 35 U.S.C. §101; Claims 1-9, 17, and 19-29 were rejected under 35 U.S.C. §102(e) as anticipated by Aweya et al. (U.S. Patent 7,043,651; hereinafter “Aweya”); and Claims 10-16 and 18 were rejected under 35 U.S.C. §103(a) as unpatentable over Aweya in view of Lahat (U.S. Patent 6,963,561).

In response to the objection to the specification, Applicants have amended the Title in accordance with the suggestion set forth in the outstanding Office Action. Accordingly, Applicants respectfully submit that the objection to the specification has been overcome.

In regard to the objection to Claim 15, Applicants have amended Claim 15 to recite that “said reference synchronization data is independent of said reference clock data,” to correct a typographical error. Accordingly, Applicants respectfully submit that the objection to Claim 15 has been overcome.

In response to the rejection of Claims 21-24 and 29 under 35 U.S.C. §101, Applicants have canceled Claims 22-24 rendering the rejection of these claims moot. Further, Applicants have amended independent Claims 21 and 29 to recite a computer readable medium. MPEP 2106 IV.B.1(a) states that:

¹ See page 14, lines 1-7 of the specification and the original claims.

A claimed computer-readable medium encoded with a computer program is a computer element which defines structural and functional interrelationships between the computer program and the rest of the computer which permit the computer program's functionality to be realized, and is thus statutory.

In view of the presently submitted claim amendments and foregoing comments Applicant respectfully submits that Claims 21 and 29 define statutory subject matter.

Accordingly, Applicants respectfully request that the rejection of Claims 21-24 and 29 under 35 U.S.C. §101 be withdrawn.

In response to the rejection of Claims 1-9, 17, and 19-29 under 35 U.S.C. §102(e) as anticipated by Aweya, Applicants respectfully submit that Claim 1 recites novel features clearly not taught or rendered obvious by the applied references.

Independent Claim 1 is directed to a method of synchronizing the phase of a local image synchronization signal generator including, *inter alia*:

...said reference video data processor sending, via said network, to said local data processor an image timing packet providing reference image synchronization data indicating a difference in timing, measured with respect to said reference processor's clock, between a time at which said image timing packet is launched onto said network and a time of production of a reference image synchronization signal; and

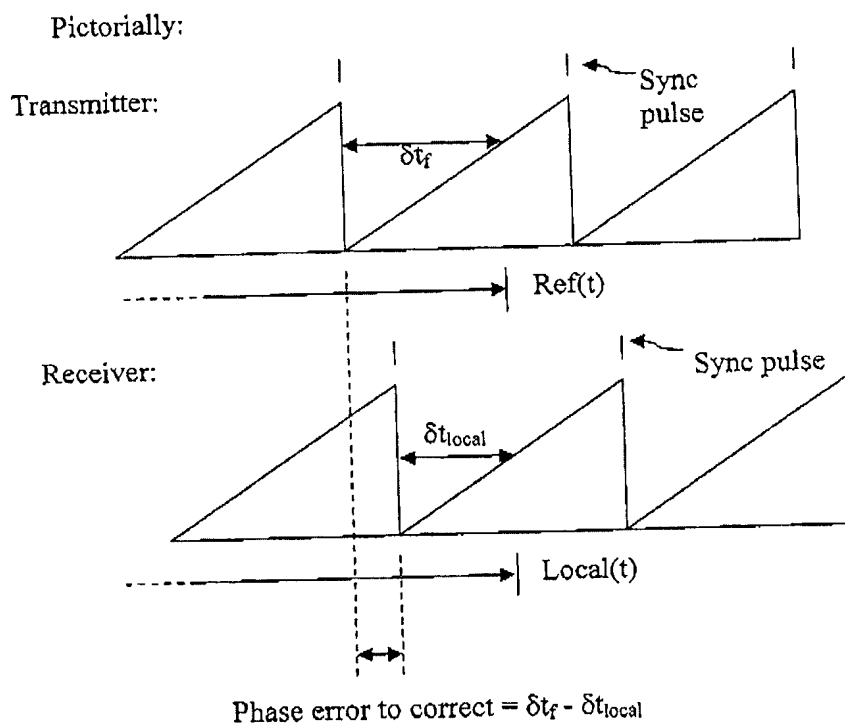
said local video data processor controlling the timing of production of said local image synchronization signals in dependence on said reference image synchronization data and a time of arrival of said image timing packet.

Independent Claims 25-27 and 29 recite substantially similar features as Claim 1.

Therefore, the arguments presented below with respect to Claim 1 are also applicable to Claims 25-27 and 29.

By way of background, an exemplary embodiment of Applicants' invention includes a transmitter 2 including a reference frame synchronization signal. Occasionally, the transmitter transmits a timing packet (shown for example in Figure 3) including timing data

indicating the time between the last reference frame synchronization signal and the transmission of the timing packet. A receiver 4 has its own local frame synchronization signal, and keeps a local count of the time since the last local frame synchronization signal. When the transmitted timing packet is received, the local count at the time of receipt is compared with the reference counter in the timing data. The difference in these values is determined to be the difference in phase between the two frame synchronization signals. The phase of the local frame synchronization signal can then be adjusted accordingly.



In the above picture (and similarly in Applicants' Figure 10), at the moment that a timing packet is sent, the reference time (shown above as "Ref(τ)") and the corresponding frame sync counter $\delta\tau_f$ are recorded in the timing packet. After the timing packet is transmitted through the network, it is received at the receiver. The receiver has a local clock (shown above as "local(τ)") and local sync counter ($\delta\tau_{local}$ above). The relative phase of the reference and local clocks is then determined by the difference between $\delta\tau_f$ and $\delta\tau_{local}$, which

indicates the relative phase of the reference and local sync pulses.² Thus, phase synchronization is achieved with transmission of only a **single** data packet, i.e. the timing packet, including a single timing feature relating to the internal workings of the transmitter.

Turning now to the applied reference, column 4, lines 57-67 of Aweya describes receiving a first timestamp and a second timestamp, each indicating a respective time instance as determined by a first clock signal within a network. Aweya also describes measuring a first time interval between the first timestamp and the second timestamp and generating a difference signal representing a difference between the first time interval and a second time interval, and generating a second clock signal based upon the difference signal such that the second clock signal is synchronized with the first clock signal.

However, Aweya fails to teach or suggest “said reference video data processor sending, via said network, to said local data processor ***an image timing packet providing reference image synchronization data indicating a difference in timing, measured with respect to said reference processor's clock, between a time at which said image timing packet is launched onto said network and a time of production of a reference image synchronization signal,***” as recited in Applicants’ Claim 1.

In Aweya, clock synchronization is achieved by receiving **two** timestamps, and measuring a time interval **between** the reception of the first and second timestamps.³ Whereas in Applicants’ Claim 1, phase synchronization involves the transmission of only **one** image timing packet. The image timing packet including reference image synchronization data indicating a difference in timing, measured with respect to the reference processor's clock, between a time at which the image timing packet is launched onto the network and a time of production of a reference image synchronization signal.

² See page 4, line 21 to page 5, line 28, and page 9, line 28 to page 10, line 33 of the specification; and Figure 10.

³ See Aweya at column 4, lines 57-67 of the specification, the Abstract of Aweya, and Figure 5.

Thus, Applicants' Claim 1 clearly differs from Aweya in that only one timing packet needs to be sent over the network to achieve phase synchronization, rather than two as described in Aweya.

Accordingly, Applicants respectfully submit that independent Claims 1, 25-27, and 29 (and all claims depending thereon) patentably distinguish over Aweya, and Applicants respectfully request that the rejection of Claims 1-9, 17, and 19-29 under 35 U.S.C. §102(e) be withdrawn.

In response to the rejection of Claims 10-16 and 18 under 35 U.S.C. §103(a) as unpatentable over Aweya in view of Lahat, Applicants note that Claims 10-16 and 18 are dependent on independent Claim 1 and are thus believed to be patentable for at least the reasons discussed above. Further, Applicants respectfully submit that Lahat fails to cure any of the above-noted deficiencies of Aweya.

Accordingly, Applicants respectfully request that the rejection of Claims 10-16 and 18 under 35 U.S.C. §103(a) as unpatentable over Aweya in view of Lahat be withdrawn.

Consequently, in view of the present amendment, and in light of the above discussion, the pending claims as presented herewith are believed to be in condition for formal allowance, and an early and favorable action to that effect is respectfully requested.

Respectfully submitted,

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